

ASSIGNMENT 4

Textbook Assignment: "JP-5 Afloat Below Deck Systems and Operations (continued)," and "JP-5 Afloat Flight Deck Systems and Operations," chapters 4 and 5, pages 4-65 through 5-16.

- 4-1. What type of gage is normally installed on the suction side of a pump?
1. Simplex
 2. Compound
 3. Differential
 4. Duplex
- 4-2. Which type of tanks, located between voids, are an integral part of the ship's underwater protective system?
1. Wing
 2. Deep centerline
 3. Double-bottom
 4. Peak
- 4-3. Why are twin wing tanks emptied and filled as a unit?
1. The rate of flow is increased
 2. To preserve the list and trim of the ship
 3. The rate of flow is decreased
 4. To lessen the chance of contamination
- 4-4. The top of a double-bottom tank is also the
1. outer shell of the ship
 2. vertical bulkhead of the pumproom
 3. inner skin of the ship
 4. deck of the bilge
- 4-5. The JP-5 storage tanks are used for bulk storage of JP-5. What is the difference, if any, in JP-5 in a service tank compared to JP-5 in a storage tank?
1. It passed through a filter or centrifugal purifier
 2. It was filled directly from the refueling station downcomer
 3. It contains clean JP-5 defueled from defueled aircraft
 4. None
- 4-6. What device prevents air pressure from building up or a vacuum from forming in a JP-5 tank when the tank is being emptied or filled?
1. A service suction pipe
 2. A transfer suction pipe
 3. An air escape riser
 4. An overflow line
- 4-7. Why should you be concerned about ship's side cleaners spray painting near tank air escape vents?
1. The paint could get in the line and contaminate the fuel
 2. The paint will mix with the JP-5 and lower its flash point
 3. The paint could clog the flame arrester and block the flow of air
 4. The paint will dissolve the grease applied during PMS
- 4-8. What device is installed in the overflow line to prevent overflow from the overflow tank going into another storage tank?
1. Globe valve
 2. One-way check valve
 3. Gate valve
 4. Butterfly valve

- 4-9. Which of the following fittings is installed at the lower end of a sounding tube?
1. Brass vortex plate
 2. Striker plate
 3. Brass non-vortex plate
 4. Bellmouth fitting
- 4-10. Which of the following devices is/are installed in the tank at the end of a fill and suction tailpipe?
1. Splash plate
 2. Nonvortex fitting
 3. Both 1 and 2 above
 4. Striker plate
- 4-11. What is the specified fill rate of JP-5 storage tanks?
1. 500 gpm
 2. 200 gpm
 3. 300 gpm
 4. 400 gpm
- 4-12. What tanks are the first to be emptied when transferring fuel internally and the last to be filled when receiving fuel aboard?
1. Overflow tanks
 2. Service tanks
 3. Contaminated tanks
 4. Peak tanks
- 4-13. Where do overflow tanks overflow to when they are full?
1. Other overflow tanks
 2. The contaminated tank
 3. Overboard
 4. Bilge sump tank
- 4-14. The service tank fill and suction tailpipes are exactly the same as the fill and suction tailpipes for storage tanks.
1. True
 2. False
- 4-15. Each service tank has a recirculating line installed horizontally in the opposite end from the suction tailpipe. How far off the bottom of the tank is the recirculating line installed?
1. 12 in.
 2. 18 in.
 3. 24 in.
 4. 26 in.
- 4-16. Before you enter any JP-5 tank for inspection or cleaning, the tank must be certified safe for entry by whom?
1. The below decks CPO
 2. V-4 division LCPO
 3. V-4 division officer
 4. The gas-free engineer
- 4-17. The GEM TLI transmitter mounted vertically within the tank is comprised of magnetic reed switches. At what intervals are the switches capped into the transmitter?
1. 1 in.
 2. 2 in.
 3. 3 in.
 4. 4 in.
- 4-18. The calibrate potentiometer in the primary receiver is adjusted to what amount of power supply output?
1. 10 volts ac
 2. 10 amps ac
 3. 10 volts dc
 4. 10 amps dc
- 4-19. What operates the tap switches in the transmitter?
1. Current in the potentiometer
 2. The cable system
 3. The slosh dampener
 4. A magnet in the float

- 4-20. The tap switches are arranged so voltage drops are read at the receiver after how much float travel ?
1. Every 1/4 in.
 2. Every 1/2 in.
 3. Every 3/4 in.
 4. Every 7/8 in.
- 4-21. Included in the primary receiver housing are the dc power supply, electrical slosh dampening control, all alarm controls, and the
1. secondary receiver
 2. indicating meter
 3. ac power supply
 4. sounding gage
- 4-22. After calibration, the toggle switch is held in the FULL REF position and a full-scale meter reading is observed. What should this reading indicate?
1. A ground in the transmitters
 2. A ground in the receivers
 3. Bad electrical connections
 4. Cables and electrical connections are good
- 4-23. Why is a capacitor connected across the indicating meter?
1. To prevent meter fluctuation caused by sloshing in the tank
 2. To prevent a power surge from damaging the indicating meter
 3. To indicate a low power supply
 4. To indicate high voltage
- 4-24. The alarm control system (SENS PAK) is normally used for indicating what factor(s) in the tanks?
1. High level
 2. Low level
 3. Both 1 and 2 above
 4. Overflow
- 4-25. Which SENS PAK alarm control adjustment substitutes the float simulator circuit for the transmitter in the indicating meter circuit for alarm adjustment?
1. Normal simulate switch
 2. Float simulator potentiometer
 3. High alarm potentiometer
 4. Low alarm potentiometer
- 4-26. On the mimic diagram of the control console, what color is used to indicate the stripping system?
1. Purple
 2. Green
 3. Red
 4. Black
- 4-27. What manual contains the JP-5 systems operating procedures for a specific ship?
1. Technical Manual for Shipboard Aviation JP-5 Fuel Systems
 2. Aviation Fuels Operational Sequencing System (AFOSS)
 3. NAVSEA Technical Manual, Chapter 542, Gasoline and JP-5 Systems
 4. Aircraft Refueling NATOPS Manual
- 4-28. What copy of AFOSS would be found in a filter room?
1. Division officer's copy
 2. Work center copy
 3. Workstation copy
 4. Master copy
- 4-29. What devices are used to completely empty JP-5 and ballast tanks that have been ballasted before receiving fuel?
1. Main eductors
 2. Transfer pumps
 3. Auxiliary pumps
 4. Stripping pumps

- 4-30. Before fuel can be pumped into any tank in a nest of storage tanks, what condition must be met?
1. The service tanks must be full
 2. The fuel must be purified
 3. The overflow tank for that nest must be empty
 4. All other tanks in that nest must be empty
- 4-31. Typically, what is the minimum number of tanks that should be open when receiving fuel?
1. Six
 2. Two
 3. Eight
 4. Four
- 4-32. Which of the following is NOT a consideration when you are determining the duration of a receiving operation?
1. Speed of the ship
 2. Amount to be received
 3. Pumping rate of the tanker
 4. Maximum receiving rate
- 4-33. Underway refueling stations should be manned at least how many minutes before the fueling time?
1. 15 min
 2. 30 min
 3. 45 min
 4. 60 min
- 4-34. Which tanks are normally filled first during a refueling operation?
1. Double-bottom
 2. Wing
 3. Service
 4. Overflow
- 4-35. Where is the initial flow of JP-5 directed during an underway replenishment?
1. Service tanks
 2. Peak tank
 3. Contaminated settling tanks
 4. Overboard
- 4-36. Overflow mains leading into overflow tanks are designed to allow what flow rate of overflow into overflow tanks?
1. 1,000 gpm
 2. 1,500 gpm
 3. 2,000 gpm
 4. 2,500 gpm
- 4-37. After the initial samples are obtained, how often are samples taken when on-loading fuel?
1. Every 15 min
 2. Every 20 min
 3. Every 30 min
 4. Every 60 min
- 4-38. A fuel sample fails to meet the cleanliness requirements during a refueling operation. Who makes the final decision on acceptance or rejection of the fuel?
1. The person taking the sample
 2. The quality surveillance lab supervisor
 3. The division officer
 4. The commanding officer
- 4-39. To obtain maximum settling time, it is standard procedure to purify into the in-use service tank.
1. True
 2. False
- 4-40. What is the settling time for JP-5 per foot of height?
1. 1 hr
 2. 6 hr
 3. 3 hr
 4. 12 hr
- 4-41. When underway, JP-5 service tanks are stripped daily and what other times?
1. Every 3 hours
 2. Every 6 hours
 3. Just before use
 4. Just before pulling inport

- A. Stripping main valves to the stripping pump suction header
- B. Flood and drain manifold valve to the stripping main
- C. Single-valved stripping manifold valve to the tank to be stripped
- D. Stripping pump discharge valve
- E. Cutout valve from the discharge header to the contaminated storage tank
- F. Stripping pump inlet valve

IN ANSWERING QUESTION 4-42, REFER TO FIGURE 4-A.

FIGURE 4-A

- 4-42. Select the sequence in which you should open the valves before starting the storage tank stripping pumps.
- 1. B, C, A, D, F, E
 - 2. C, B, A, E, F, D
 - 3. C, B, A, F, D, E
 - 4. A, B, C, F, D, E

- 4-43. The pipe capacity is 120 gallons and the pump capacity is 50 gallons a minute. Approximately how many minutes must elapse after the stripping operation has started on the next storage tank before a conclusive sample of JP-5 can be taken?
- 1. 5
 - 2. 2
 - 3. 3
 - 4. 4

- 4-44. How should you minimize vibration when starting the purifier with a dirty bowl?
- 1. By admitting seal water immediately after pressing the START button
 - 2. By filling the purifier with fuel from the transfer pumps
 - 3. By starting the transfer pumps before you start the purifier
 - 4. By pumping out the sump tank to make sure all the fuel in the purifier has drained out
- 4-45. The motor-driven stripping pump is used to consolidate the last 24 inches remaining in the storage tanks. The pump's discharge header is aligned so that this fuel is discharged into the
- 1. stripping tailpipes
 - 2. overflow tank
 - 3. transfer main
 - 4. contaminated settling tank

- A. Service tank
- B. Downcomer
- C. Service pump discharge header
- D. Transfer main
- E. Transfer pump discharge header
- F. Filling connection
- G. Service pump

IN ANSWERING QUESTION 4-46. REFER TO FIGURE 4-B

FIGURE 4-B

- 4-46. Select the correct sequence of flow when off-loading JP-5 from a service tank.
- 1. A, G, C, E, D, B, F
 - 2. A, C, G, E, D, B, F
 - 3. A, G, C, E, B, D, F
 - 4. A, C, G, B, E, D, F

- 4-47. Which of the following operations requires flushing the entire JP-5 service system?
1. Shipyard overhaul
 2. Major rework on the system
 3. Drainback for maintenance
 4. Each of the above
- 4-48. Where are samples of JP-5 obtained when flushing the service system?
1. From a test connection on the pressure fueling nozzle
 2. From the telltale valve on the double-valved manifold
 3. From the sample connection in the aft-service pump discharge header
 4. Both 2 and 3 above
- 4-49. What is the Navy's largest pollution problem?
1. Air pollution
 2. Noise pollution
 3. Dioxin pollution
 4. Oil pollution
- 4-50. Which of the following is an incorrect statement about the functions of the Cla-Val fuel/defuel valve?
1. It acts as an emergency shutoff valve
 2. It evacuates the entire piping system
 3. It maintains a constant discharge pressure
 4. It relieves discharge pressure rising above a predetermined level
- 4-51. In the main valve, the fueling valve and defueling valve each uses a well supported and reinforced diaphragm as its operating means. Normally each valve is in what position?
1. The fueling valve is spring-loaded open and the defueling valve is held open by its weight
 2. The fueling valve is spring-loaded closed and the defueling valve is held open by its own weight
 3. The fueling valve is held closed by its own weight and the defueling valve is spring-loaded open
 4. The fueling valve is held open by its own weight and the defueling valve is spring-loaded closed
- 4-52. Which valve in the Cla-Val unit controls the delivery pressure when the main valve is in the fueling mode?
1. Fueling pressure relief control valve
 2. Defueling pressure relief control valve
 3. Pressure reducing control valve
 4. Hytrol valve
- 4-53. Spring action holds which of the following valves open?
1. Fueling pressure relief control valve
 2. Defuelling pressure relief control valve
 3. Defueling main valve
 4. Pressure reducing control valve
- 4-54. Which valve shifts the Cla-Val unit from the defuel to the fuel mode of operation, and from the fuel to the defuel mode of operation?
1. SOPV
 2. Hytrol valve
 3. Defueling valve
 4. Pressure reducing control valve

- 4-55. Which valve prevents the fuel hose from charging too quickly by controlling the reaction time of the fueling valve?
1. Flow control valve
 2. SOPV
 3. Fueling pressure relief control valve
 4. Pressure reducing control valve
- 4-56. When there is an increase in the downstream pressure that is high enough to overcome the force of the spring in the defueling pressure relief control valve, which of the following valves will open?
1. The SOPV, both relief valves, and the defueling valve
 2. The defueling pressure relief control valve and the defueling valve
 3. The pressure reducing control valve and both pressure relief control valves
 4. The flow control valve
- 4-57. When adjusting the delivery pressure on the Cla-Val station, what pressure should you adjust the pressure reducing control valve to first?
1. 10 psi higher than the desired delivery pressure
 2. 10 psi lower than the desired delivery pressure
 3. At the desired delivery pressure
 4. 0 psi
- 4-58. When the final adjustment on the Cla-Val is made, at what pressure will the fueling valve's pressure relief control valve be set?
1. 10 psi higher than the delivery pressure
 2. 7 1/2 psi higher than the delivery pressure
 3. 5 psi higher than the delivery pressure
 4. 2 1/2 psi higher than the delivery pressure
- 4-59. In a swing joint, what device connects the continuity wire to the spider assembly?
1. An amphonel gasket
 2. A spider joint
 3. A nylon collar
 4. An amphonel stud
- 4-60. What device prevents the hose reel from moving when it is not in use?
1. A gear chain
 2. A manual brake
 3. A locking pin
 4. An automatic catch
- 4-61. What is the standard length for a completely assembled 2 1/2-inch collapsible hose?
1. 20 ft
 2. 25 ft
 3. 40 ft
 4. 50 ft
- 4-62. After cutting back and pressure testing a fuel hose, which of the following actions must you take before fueling aircraft with that hose?
1. Flush the hose
 2. Sample the hose
 3. Test the sample on the CFD to see if it is acceptable
 4. Each of the above
- 4-63. The quick-disconnect has female threads on one end to accept the hose coupling. What device(s) is/are used to connect the other end to the male end of the nozzle adapter?
1. 3/8-inch nuts and bolts
 2. A female ball bearing quick release
 3. A pie flange
 4. Swedge locks

- 4-64. What part of the pressure refueling nozzle houses the operating linkage?
1. Collar assembly
 2. Nose seal assembly
 3. Body
 4. Poppet
- 4-65. Gravity fueling nozzles are blocked open when being used on the same station as pressure refueling nozzles.
1. True
 2. False
- 4-66. Portable defuel pumps are operated by what force?
1. The service system riser pressure
 2. The power take-off (PTO) of a tow tractor
 3. The ship's low pressure air
 4. The ship's high pressure air
- 4-67. What will happen to the solenoid on the Cla-Val if continuity is broken in any place?
1. It will reenergize with a 5-second delay
 2. Its warning buzzer will emit an audible alarm
 3. It will immediately reenergize
 4. It will remain energized until the toggle switch on the nozzle is placed in the OFF position
- 4-68. If a hose ruptures while you are fueling and the continuity circuit is not broken, what, if anything, will happen?
1. The hose will shift into the defuel mode
 2. The defuel pump on the station will automatically shut off causing the Cla-Val to shift to the defuel mode
 3. The fuel hose will self seal
 4. Nothing